

In the Claims

The presently pending claims are as follows:

1. (previously presented) A method of transporting packet voice and data traffic over a low bandwidth upstream communication path from a subscriber location, the method comprising performing at the subscriber location the steps of: generating a first internet protocol (IP) packet stream carrying the voice traffic; generating a second IP packet stream carrying the data traffic; segmenting said first and second IP packet streams into respective first and second ATM cell streams; and multiplexing said first and second ATM cell streams together for transport over said upstream communication path.
2. (previously presented) A method as claimed in claim 1, wherein said upstream communication path comprises a telephone subscriber loop.
3. (previously presented) A method as claimed in claim 2, wherein said subscriber loop carries a asymmetric digital subscriber line (ADSL) service.
4. (previously presented) A method as claimed in claim 3, wherein said first and second cell streams are adaptation layer five (AAL5) cell streams.
5. (previously presented) A method as claimed in claim 4, wherein said first and second cell streams are re-assembled into respective voice and data packets for transport over an IP network.
6. (previously presented) A method as claimed in claim 5, wherein said voice packets are routed within the IP network to one or more gateways providing access to a PSTN.

7 to 9. (cancelled)

10 to 14. (cancelled)

15. (previously presented) A subscriber station for providing digital communication with an access multiplexer over a subscriber loop, the subscriber station incorporating means for generating a first IP packet stream comprising digitally encoded voice traffic and a second IP packet stream comprising data traffic, means for segmenting said first and second IP packet streams into respective first and second ATM cell streams, and multiplexing means for multiplexing said first and second ATM cell streams together for transport to the access multiplexer over said subscriber loop.

16. (previously presented) A method of transporting packetised delay sensitive and delay insensitive traffic on a low bandwidth upstream communications path from a subscriber location, the method comprising performing at the subscriber location the following steps:

- generating a first packet stream carrying the delay sensitive traffic according to a first packet protocol;

- generating a second packet stream carrying the delay insensitive traffic according to said first protocol;

- segmenting said first and second packet streams into respective first and second streams in accordance with a second packet protocol; and

- multiplexing said first and second packet streams formed in accordance with said second packet protocol for transport over the upstream communication path, wherein said second packet protocol has a packet length that is smaller than that of the first packet protocol.

17. (previously presented) A method according to claim 16, wherein the first packet protocol is the Internet Protocol (IP) and the second protocol is the Asynchronous Transfer Mode (ATM) Protocol.

18. (previously presented) A method according to claim 16, wherein said upstream communication path is a subscriber loop carrying a asymmetric digital subscriber line (ADSL) service.

19. (previously presented) A method according to claim 16, wherein the first packet stream comprising said delay sensitive traffic comprises digitally encoded voice traffic and said second packet stream comprising said delay insensitive traffic comprises data traffic.

20. (cancelled)

21. (previously presented) A subscriber station for providing communication with an access multiplexer over a low bandwidth, upstream communications path, comprises:

means for generating a first packet stream carrying the delay sensitive traffic according to a first packet protocol;

means for generating a second packet stream carrying the delay insensitive traffic according to said first protocol;

means for segmenting said first and second packet streams into respective first and second streams in accordance with a second packet protocol; and

means for multiplexing said first and second packet streams formed in accordance with said second packet protocol for transport over the upstream communication path, wherein said second packet protocol has a packet length that is smaller than that of the first packet protocol.

22. (previously presented) A subscriber station according to claim 21, wherein the first packet protocol is IP and the second packet protocol is ATM.

23. (previously presented) A subscriber station according to claim 21, wherein the upstream communication path comprises a subscriber loop carrying an ADSL service.